

Application No. 10/635,864  
Docket No. 1999U026.US-CON3  
Reply to Office Action Dated 02/07/2005

Amendments to the Specification

TITLE:

~~CATALYST COMPOSITION, METHOD OF POLYMERIZATION, AND POLYMER THEREFROM~~

BIMODAL HIGH DENSITY POLYETHYLENE

ABSTRACT:

~~Catalyst compositions and methods, useful in polymerization processes, utilizing at least two metal compounds are disclosed. At least one of the metal compounds is a Group 15 containing metal compound and the other metal compound is preferably a bulky ligand metallocene-type catalyst. The invention also discloses a new polyolefin, generally polyethylene, particularly a multimodal polymer and more specifically, a bimodal polymer, and its use in various end-use applications such as film, molding and pipe.~~

The present invention is directed to a bimodal polyethylene comprising ethylene derived units and units derived from at least one of a C<sub>4</sub> to C<sub>12</sub> olefin; wherein the polyethylene has a density of from 0.940 to 0.970 g/cm<sup>3</sup>; an I<sub>21</sub>/I<sub>2</sub> of 80 or more; a residual Group 4 metal content of 2.0 ppm or less; a Mw/Mn of from 20 to 60; and wherein the polyethylene comprises a high molecular weight component and a low molecular weight component, the high molecular weight component present from 40 to 60 weight percent based on the total polyethylene, and wherein the bimodal polyethylene has a weight average molecular weight Mw of 180,000 a.m.u. or more.